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MANAGEMENT PLANNING PROGRAM IN INFORMATION SYSTEMS

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MANAGEMENT PLANNING PROGRAM IN INFORMATION SYSTEMS

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AUTHOR
Managing the Acceptance of

TITLE
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INFORMATION SYSTEMS PROGRAM

VENDOR WATCH REPORT

MANAGING THE ACCEPTANCE OF OFFICE SYSTEMS

DECEMBER 1983

MANAGING THE ACCEPTANCE OF OFFICE SYSTEMS

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I INTRODUCTION

A. PURPOSE

- This report is part of INPUT's Information Systems Program (ISP). It identifies key factors and techniques for increasing acceptance of office systems.
- The report asks the following important questions:
  - What are the differences between sponsors, purchasers, and owners of office systems?
  - What are the differences between traditional systems and office systems?
  - What are the users' barriers to accepting office systems?
  - What are the risks associated with office systems?
  - How do office systems affect the information systems (IS) organization?
  - What type of support staff is required to improve acceptance of office systems?

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- Which strategies should be developed to improve management and user acceptance of office systems?

B. SCOPE

- This report will focus on office systems that improve existing paper-based office procedures and computer-based and manual systems. It does not address technologies, such as optical disk and image processors, that have not yet been incorporated in most office systems environments. These technologies depend on central site information management strategies and do not require as much active involvement by end users.

- The following people should find this report pertinent:

  - IS managers.

  - IS planners.

  - End-user managers.

  - Senior corporate managers.

C. RELATED INPUT REPORTS

- Interested readers are referred to the following INPUT reports:

  - Impact of Office Systems on Productivity, November 1983.

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. Establishes the framework for understanding the productivity problem and for evaluating office systems.

- The Opportunities of Fourth Generation Languages, September 1983.

  . Analyzes the extent to which fourth generation languages are used and how they fit into the information systems strategy.

- Organizing the Information Center, August 1983.

  . Discusses how to organize an information center, including chargeback methods.

- The Impact of the Office of the Future, December 1980.

  . Describes the expected effects of the "office of the future" on both the organization and the people within it.

- Managing the Integration of Office Automation in the EDP Environment, November 1980.

  . This report focuses on the tactical issues involved in managing the integration of office automation into the organization.

- Personal Computers Versus Word Processors: Resolving the Selection Dilemma, June 1983.

  . Compares and contrasts PC and WP roles inthe office environment for today and the future. It also includes a methodology to assist decisionmakers in making cost-effective selections that reflect each organization's unique environment.

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- Selecting User Friendly Operating Systems for Personal Computers, June 1983.

  . This report establishes criteria and provides recommendations for selecting PC operating systems for different types of organizations.

D. REPORT ORGANIZATION

- The remainder of the report is organized as follows:

  - Chapter II is an executive summary.

  - Chapter III describes the importance of office systems to the organization.

  - Chapter IV identifies key factors to office systems acceptance from the perspective of management, organizations, and users.

  - Chapter V describes techniques for improving acceptance of office systems.

  - Chapter VI contains strategies for implementing successful office systems.

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II EXECUTIVE SUMMARY

A. BARRIERS TO OFFICE SYSTEMS

- Office systems have evolved from standalone word processors to systems that integrate text, graphics, and computational functions for many users located in geographically remote locations.

- The cost and complexity of these systems coupled with the intangible nature of their benefits make justification difficult. Because of these factors management may perceive office systems as a high risk. There is also the belief by some managers that office systems are just a fad.

- Because of this complex situation, there are many barriers to acceptance of office systems. The difficulties are exacerbated by the diversity of office systems users, who range from CEOs using an executive information system to clerks using a word processor. Some of the barriers to acceptance include:

  - Rapid obsolescence of technology.

  - Fear of job displacement.

  - Inadequate support.

  - Distrust of IS.

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- In many organizations, IS suffers a credibility problem with both users and managers. Users feel their requirements are ignored, and managers believe that information systems cost too much, do not satisfy needs, and have been implemented too late. Whether these perceptions of IS are valid is immaterial; their existence erects barriers to acceptance of office systems.

B. REMOVING THE BARRIERS

- IS must remove the barriers to accepting office systems, and their first step must be to improve their own image.
  - Their unresponsive image stems from the users' dependence on IS for all changes to their systems.
  - IS can change this by taking the role of facilitator for these systems, helping users to help themselves.
  - Users must perceive the systems as their own. IS must provide the support, allow the user to become self sufficient.
- Office systems are a corporationwide endeavor; their implementation should be directed by a task force comprised of managers, finance personnel, users, and IS.
  - Such an ecumenical group would nurture the users' ownership concept.
  - Including management and members of the finance department improves communications with the office systems' purchasers by improving their understanding of the benefits of the systems.

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- Due to the potential high cost and the difficulty of measuring the benefits of office systems, pilot programs should be used.

  - The pilot should be selected carefully to assure success.

    . The pilot group should have a sufficient number of users (critical mass).

    . The user group should be visible to senior management.

    . The group should have an acute need that the system can satisfy (e.g., improved communications).

  - Beware of underestimating cost.

    . Don't have insufficient workstations or quality printers. Either could inhibit system use and shoot down the pilot.

    . Don't forget that a threshold exists at which additional processing power and storage will be required. At that point costs will increase greatly and present an unpleasant surprise if the threshold is not identified beforehand.

- Market office systems to the company. Produce newsletters that record the systems' successes, instruct the users on new functions, and give recognition to innovative users. Demonstrate the system to managers and present user testimonials on its worth to the organization. But don't oversell. False expectations can lead to dissatisfaction and rejection of the system.

- Finally, understand the users' fears and arrest them by demonstrating the benefits the system can deliver. Include users in the planning, development, implementation, and support stages. Giving users a sense of ownership is the key to removing the barriers to acceptance of office systems.

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III THE IMPORTANCE OF OFFICE SYSTEMS

A. THE EVALUATION OF OFFICE SYSTEMS

- In recent years the office of the future and its miraculous effects upon American industry have been greatly hyped. Behind the futuristic claims, the mundane reality for most companies was an office system that consisted solely of word processing.

- The scene changed in 1982 when IBM announced its personal computer. An avalanche of personal computers reached offices across the nation, and they began to perform functions that were previously done by hand. Personal computers were legitimized.

- Those personal computers have evolved into office systems. They now demand communications not only from the mainframe computer for corporate data but from the other PCs within an office community. In fact, these PCs are actually intelligent workstations with the capability of becoming entry points to corporate, departmental, and office networks.

- Each company's position along this evolutionary network will be different. The salient facts about this evolution are that it is inexorable and that access to workstations will grow to include all strata of the corporation. Users' demands for these systems and for access to information will grow - at all levels.

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- These systems are indeed office systems. The realization of their potential benefits to the company depends upon their acceptance by a vast and diverse user community. At this point, information systems (IS) organizations must take the lead to insure that users obtain systems that meet their needs. Understandable, helpful systems will lead to acceptance and progress.

B. RISKS OF NONACCEPTANCE

- Office systems are often discretionary. Electronic mail and filing systems require critical mass to be successful. If too few people use them, the systems will not produce promised benefits and may even be discontinued.

- Office systems are sometimes considered faddish. This image is enhanced by the large advertising expenditures of office automation vendors and the difficulty of justifying office systems.

  - INPUT's report, Methods of Cost Benefit Analysis for Office Systems, September 1983, described the complexity of justifying these systems.

  - Systems that are designed for professionals, such as decision support systems, are justified using references to potential improved decision making ability. Systems designed for clerical employees (word processors), however, can be justified by tangible methods, such as time savings and increased output.

- Due to the difficulty of financially justifying office systems used by professionals, a company's financial community may question their value.

- The skeptcism of the financial community implies a high risk of nonacceptance. Furthermore, the cost of providing access to office systems through-

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out the organization cannot be justified by traditional techniques. Managers who want these systems are under considerable pressure to somehow demonstrate their benefits to the company.

- The paradox is that the value of office systems is based on the exchange of information by many users. Critical mass is essential for success. But critical mass may require a large financial commitment.

- The alternative to installing integrated office systems is either to continue with manual systems or to use standalone personal computers.

  - Manual systems are collapsing under the weight of their own paper. The increasing requirements for easy access to perishable information in a usable format is making manual systems obsolete.

  - Personal computer systems are effective for personal computing. But the need to communicate and access corporate information is creating a demand for networking. In fact, networking is creating a de facto, but unplanned, office system. It is reactive, inefficient, and costly. The incremental expenditures of creating this system may exceed the cost of an integrated office system without acquiring all its capabilities.

- The risk of nonacceptance of integrated office systems may put companies into a reactive mode, a mode that has undermined traditional data processing for the past 20 years.

C. I.S. ROLE

- Whose system is it? Ownership of systems is a sticky problem. Especially since ownership implies responsibility.

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- Traditional data processing systems are theoretically owned by the user but, in fact, are controlled by IS. This has led to many problems between IS and user organizations.

  - Traditional systems are developed and operated by IS for the user.

  - This makes users feel removed, and their requirements are not always met. This leads to a culpability chasm. IS believes it's the user's system and vice versa.

- To succeed, office systems must "belong" to the users. And IS must overcome its nonresponsive image.

  - The success of office systems is based on flexibility and ease of use. The user must be able to get and manipulate the information quickly and without using an intermediary - IS.

  - IS has the computing expertise to facilitate the use of these systems. Corporate data resides in IS-maintained systems. Access to this data and computer communications is in the purview of IS.

- IS is the logical organization to implement office systems but since these systems must be controlled by the user, the role of IS is changing. IS must become a facilitator.

  - IS must train, consult, and guide the user. IS personnel must remove obstacles that users perceive as inhibiting their operation of the system.

  - IS must change its reputation from that of an obstacle and to that of an asset to the user organization.

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- Exhibit III-1 lists the functions IS must perform as part of its role as office systems facilitator.

- The next chapter discusses the key factors of office systems acceptance. Chapter V will then identify techniques that IS should employ to assure the highest probability of acceptance. But the key factor that permeates the acceptance is for IS to be and, most importantly, to be seen by the user as the facilitator for office systems.

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EXHIBIT III-1

I.S.: O.S. FACILITATOR

Guide	Present the opportunities the systems provide to help users improve their job performance.
Train	Instruct in the capabilities and uses of the systems. Train users to train their peers.
Consult	Provide assistance on new uses of the systems.
Support	Provide detection and resolution assistance of hardware, software, and communication problems.
Interface	Be the liaison with other areas of IS to provide access to corporate data.

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IV KEY FACTORS TO OFFICE SYSTEMS ACCEPTANCE

- To understand the factors of accepting office systems, two perspectives must be examined, the indirect and direct:

  - The indirect perspective is represented by the attitudes of management and by the philosophy of the organization.

  - The direct perspective involves users' attitudes toward information systems in general and toward office systems in particular.

  - This chapter examines both perspectives.

A. MANAGEMENT: DEVIL OR ANGEL?

- Broadway shows often look for a person to provide financial sponsorship. Because the show may not open without a major sponsor, Broadway coined the term "angel" for this very important person. In many instances, office systems require an "angel" to provide not only financial but, more importantly, political sponsorship of the system.

  - This person should be a manager, the more senior, the better. The manager's support can range from casual interest to hands-on use of the system.

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- Management's interest is usually generated by need.

  . Executive information systems used by over 50 companies today provide senior executive access to strategic information from company and public data bases. These systems were sponsored by CEOs because of the need for immediate access to strategic information.

  . More commonly, managers sponsor systems that reduce workloads and improve communications. For example, a major international corporation was having problems meeting accounting deadlines for its international subsidiaries and in preparing periodic financial statements. The controller therefore sponsored an international electronic mail and filing system to reduce the communication and processing time.

- Sometimes managers believe that the company should have office systems and are willing to commit resources to assure that they are implemented. Although cost is important to them, the potential benefits, although intangible, are enough to justify the expense. Obviously, this "angel" must fly pretty high in the organization for such a justification to suffice.

• On the lowest end of the management sponsorship spectrum are the managers who are negative toward computer systems in general and office systems in particular. These managers think there is too much information available already. They believe that increasing the number of people that can produce, manipulate, and access data will only produce electronic garbage and reams of computer reports to be reviewed.

- These managers believe that office systems are an expensive fad, and that the demand for these systems is artificially created by advertising agencies.

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- Intangible justification is no justification to these managers. Unless a system can meet the same return on investment criteria as do other capital assets, it should not be installed.

- Although these managers may not be completely negative, the strategy must be to sell them the system. These managers are not angels.

- Most managers reside between the "angel" and the ultra conservative described above.

  - These managers must be convinced a system is a sound business decision.

  - Their acceptance or rejection of the system will be based on how well it meets the business objectives used to justify it.

  - Office systems' acceptance will depend on the same criteria, satisfying this business objective. Another important factor is user satisfaction. User attitudes will be discussed in section C of this chapter.

B. THE ORGANIZATION

- The demands for office systems vary by function and location, and satisfying them is a key factor in a system's acceptance.

  - Functional demands are related to the tasks performed. Each department has a different mix of functions that may be enhanced by office systems. Exhibit IV-1 reflects the distribution of these tasks by department.

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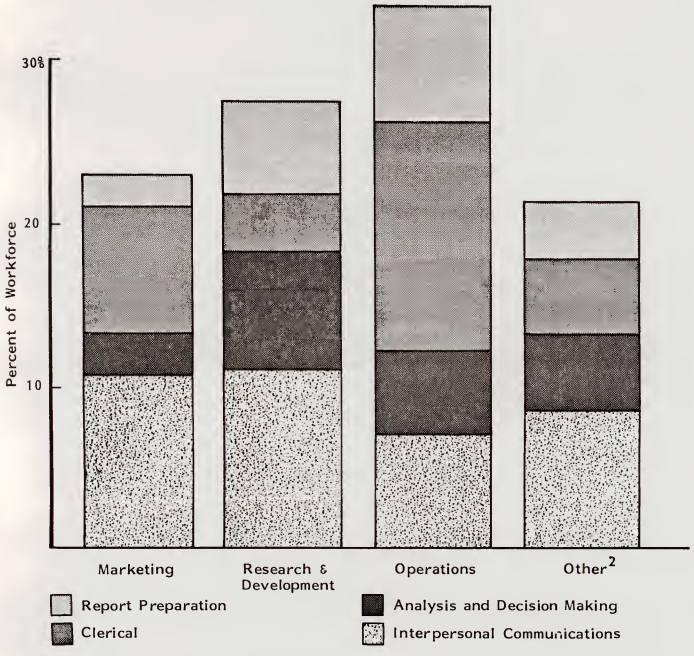
EXHIBIT IV-1

OFFICE FUNCTIONS BY DEPARTMENT



[1] Includes: Information Systems and Engineering

[2] Includes: Personnel, Finance, Legal, and Senior Management

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- The acceptance of office systems is founded on how well the system improves the performance of these functions.

- Systems that aid communications are more important to marketing than to operation departments. If a system causes problems initially in a critical area (communications in marketing, for example), it may be doomed even if the problems are resolved.

- Decentralized organizations present conflicting factors for accepting office systems.

  - Geographic dispersion leads to a strong desire for autonomy. Any vehicle that provides an opportunity for others (including headquarters) to meddle in their affairs will not be well received. Office systems may be perceived as a "spy system." Whether this is paranoid or not, this sub rosa feeling can sabotage an office system.

  - Geographic dispersion also demands better communications. This need is felt at both the remote facility and the headquarters. The ability to receive timely information is imperative for the success of most companies. Office systems can be the vehicle to satisfy this important need.

- Overriding the functional and geographical demands is the company's personality. If the company encourages open communication and close working relationships among departments, that will be the basis for accepting systems: systems that facilitate the free exchange of information. Companies that encourage autonomy are less concerned about corporationwide exchange of information and are more interested in each unit's performance. Systems designed to enhance the unit's performance will be valued. Their acceptance will be based on the unit's objectives and local concerns.

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C. THE USER

- Ultimately, the user determines the system's success. In Chapter IV IS's role was described as that of facilitator. The user's role is that of owner of the system.

- The difference between office and traditional systems makes it difficult to define factors for user acceptance.

  - Traditional systems have a well-defined user community. There are standard reports that are delivered to fixed functional units. On-line access to these systems is also performed by designated functional units. These systems are rigid and the user, for the most part, must conform to the system.

  - Office systems are malleable. Their strength is that they allow users to transmit, access, manipulate, and report information as they choose. This strength can also be a weakness.

    . Lack of structure may make it difficult to diagnose problems.

    . The vast array of functions makes training difficult.

  - Office systems users can be found along the entire corporate hierarchy from clerical personnel using word processing systems, to the CEO using executive information systems.

- The range of users presents an array of potential obstacles for system acceptance.

  - Executives may be reluctant to use terminals because such use is inconsistent with their status.

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- Cyberphobia, the fear of computers, may exist at any level of office system use.

  . Senior staff members may fear looking stupid to peers and subordinates.

  . Any staff member might fear causing a catostrophic error to the computer system, thereby disrupting the company's operation. (And then there is the fear that such a mistake would expose them to public ridicule.)

  . There is the fear of change, particularly among clerical workers who still fear losing their jobs to automation.

- The rapid changes in the office systems industry raise the spector of obsolescence. Systems may become obsolete before they have paid for themselves. This can postpone decisions to implement new office systems. There is also the fear that new systems will be incompatible with existing systems. They would require expensive modifications to either system in order for them to co-exist.

- Exhibit IV-2 lists the major barriers to acceptance of office systems.

- The next chapter discusses techniques for gaining acceptance of office systems and removing the barriers described above.

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EXHIBIT IV-2

BARRIERS TO ACCEPTANCE OF OFFICE SYSTEMS

PERSPECTIVE	BARRIER
Management	• Image • Disenchantment with past management information systems • Belief that benefits cannot be translated to improved "bottom-line" results. • Rapid obsolescence and incompatible systems
Organization	• Destroys autonomy • Needs customization to specific needs • Inadequate support structure
End User	• Cyberphobia • Inadequate training • Job displacement • Distrust of IS • Fear of change

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V TECHNIQUES FOR IMPROVING ACCEPTANCE

- The previous chapters described the office systems environment and the barriers to office systems acceptance. This chapter identifies techniques for improving that acceptance.

A. PILOTS - DON'T FLY BLIND

- Office systems are well suited for introduction using pilot programs.
  - Since the benefits of these systems are mostly intangible, a pilot program can demonstrate their benefits. The systems' usefulness can be proved or disproved in a real-life setting.
  - The financial risks can be mitigated by limiting the financial and staff resource commitments.
  - Office system software packages are available on a trial basis, and vendors encourage pilot programs to demonstrate their products. The theory is that once people are trained on the system, they will not want to give it up.
- Although pilot programs are good vehicles for implementing office systems, there are still obstacles that can cause them to crash:

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- The wrong participants. Pilots require an enthusiastic group of participants who perceive the system as an aid to performing their job. People who are negative can shoot down a pilot before it is airborne.

- Too few participants. Communication is the glue that holds the various components of office systems together. Insufficient numbers of participants will not fully demonstrate the benefits of communication-based applications such as electronic mail. Sheer numbers alone, however, do not guarantee success. The users must comprise a group that interact while performing their normal job functions.

- Lack of visibility. If the pilot group is mired in the depths of the organization, its success will not be realized. Select a highly visible group in the organization. Their success will aid the expansion of the pilot. There is a risk in selecting a visible group, however: if the pilot crashes, the program may never fly again.

- False expectations. A pilot is actually a test program. The participants must understand that there will be problems but that people will be there to correct them. The pilot is not a production system; there may be turbulence. Most pilot participants understand this at the outset, but once the system takes off, they forget that this is a test and expect a smooth flight. An airpocket can be amplified because of false expectations.

- Unbalanced support. Training and rapid problem resolution is imperative to get the pilot off the ground. But too much support is also a problem. Office systems are user systems. They must become self-sufficient. Too much on-site support can be just as damaging as insufficient support. A proper balance must be struck to assure that the user can fly solo without crashing.

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- The impediments to a successful pilot program can be removed by effective planning.

  - Users, managers, and IS must participate in this plan.

  - Status must be reviewed by participants, IS, and managers. Problems must be rectified quickly. Users must believe they have a voice in the changes to their system.

  - The pilot is a testing ground. Experiences must be documented. The system's use should be monitored not only to determine if it is to be used as expected but to see if any new, productive uses have been discovered.

  - Beware of tinkering. The system can become a toy. If users play with the system because it is fun, the result may be antiproductive. The pilot program provides the opportunity to develop procedures to guard against this problem. There is a very thin line between innovative productive uses of the system and unproductive tinkering.

- Exhibit V-1 summarizes impediments to successful office system pilot programs. Remedies are also listed for each impediment.

B. CUSTOMIZATION - THE KEY TO OWNERSHIP

- In Exhibit IV-1, the different mix of office functions was shown by department type. Each department considers different functions to be important. Similarly, each user may concentrate on a particular function.

  - Marketing departments use communications more than operations departments.

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EXHIBIT V-1

PILOT IMPEDIMENTS AND REMEDIES

IMPEDIMENTS	REMEDIES
Wrong or Too Few Participants	Plan pilot with users and management to include groups that work together and frequently communicate.
Lack of Visibility	Work with senior management to select a group that has the most to gain. Make sure problems are quickly resolved, or the pilot may never fly again.
False Expectations	Develop a close working relationship with pilot group. Rectify problems quickly. Include users in an office systems steering committee system.
Unbalanced Support	Train users to be self-sufficient. Be responsive to user requests. Establish credibility with users and their managers.

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- Market research analysts use computational tools more than most managers.

- Because of office system users' vast array of needs, a rigid system will not suffice. IS is also not structured to develop separate systems for each user group. Fortunately, office systems are general-purpose systems. They can be viewed as tools instead of programs.

  - The success of fourth generation languages is founded on simple syntax that nonprogrammers can use to program solutions.

  - Integrated software packages available on personal computers such as LOTUS 1-2-3 and VisiOn allow users to prepare reports using personal data bases and graphics.

- The general-purpose nature of office systems allows users to customize applications to fit their needs. Although these systems are user friendly, they cannot be merely turned over to the user.

  - Experience with personal computers has demonstrated that user friendly is truly a meaningless term. Many users have spent time trying to make these systems perform as advertised.

  - The need for data resident on different systems is a continual problem.

- The key to customization of office systems is to let users do it themselves, but with the guidance of IS.

  - IS can provide access to corporate information and the procedures to easily access this information.

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- IS can provide general-purpose procedures to allow the user to easily move among functions. For example, using function keys to access electronic mail, file this information, retrieve related information, compose correspondence incorporating this information and mailing it to multiple recipients.

- IS should provide training so that users can customize features to satisfy their unique needs. If IS provides effective support, the user will gladly take ownership of the system. After all, they programmed it themselves.

C. COST - MANAGEMENT'S TOP CONCERN

- Cost is senior management's top concern in regard to information systems. To assuage it, vendors have developed integrated software packages that run on currently installed hardware.

  - IBM's Professional Office System (PROFS) runs on any 43XX or 30XX system that has a VM operating system installed.

  - DEC (All-In-One) and Data General (CEO) have integrated office system packages that run on their larger minicomputers.

- These packages may be leased or, in some cases, purchased for less than $50,000. This incremental cost, however, may be the tip of the iceberg.

  - When office systems become successful, demands for workstations, printers, disk, and ultimately processing power increase dramatically.

  - Of course, the vendor's strategy is to sell low-cost software in order to sell hardware.

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- The vendor strategy is not necessarily detrimental to IS because it provides a relatively low-cost entry point for office systems. Also, pilots can be initiated with lower financial risk, therefore higher probability of success.

- Even though office systems pilots can be started on a nominal budget, don't over economize.

  - Office systems success is predicated on a critical mass of users. It must enhance office productivity, not reduce it.

    - An insufficient number of workstations will usually mean the system won't be used by a sufficient number of people.

    - An inadequate printer quality will lead to disuse of the system for text preparation.

  - The proper tools must be provided to the user, or the potential benefits of office systems will never be realized.

- Successful office systems have the potential of running rampant throughout the organization (remember the explosive growth of personal computers). Pilot programs may provide a good indicator of the benefits but a poor indicator of the cost of office systems.

  - A limited pilot may be started by adding a software package to a currently installed processor using workstations already in place. As the pilot grows, so do the hardware and software resource requirements. The system's success may lead to the purchase of additional hardware that was unforeseen during the pilot program.

  - Part of the planning process must include capacity planning. Volume constraints must be identified, and the cost of the system's expanding past that threshold must be identified and communicated to management.

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- The cost of staffing resources is often overlooked.

  - IS must establish an effective support organization that is dedicated to office systems. This group must include educators and technicians.

  - Users will experience a learning curve when first using the system. During this start-up phase they will be less productive, which will mean hidden costs for the organization.

D. MARKETING - THE DELICATE BALANCE

- Office systems place IS in a new role, a system facilitator (see Chapter III). IS must provide a rich support organization to resolve problems, train, and assist users to become self-sufficient. But users must be convinced that office systems will benefit them. Management must be convinced that office systems are not a fad. And both groups must be convinced that IS is sympathetic to their needs.

- On the other hand, office systems should not be oversold. Unrealized expectations are the main cause of unaccepted systems. Remember, the first office system most people encounter is the telephone. New office systems are consciously or subconsciously compared to the telephone for function, ease of use, and reliability.

- This parodoxical situation must be addressed by IS. Office systems must be planned in order to be integrated into the company's business and information systems objectives. IS must take the lead in and effectively market office systems to the user, management, and the entire corporation.

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- Marketing office systems requires knowing your customers and the role they play in the system life cycle.

  - Chapter IV described the factors for office systems acceptance. It looked at those factors from the viewpoints of management, the organization, and the user. Know the personality of your company and the individuals involved with the system. These people play one of the following roles:

    . Sponsor. This person, usually senior management, provides active support for the endeavor. The "angel" removes bureaucratic barriers impeding the system's success. Unfortunately, most companies don't have a sponsor for systems but they can be developed. Selling the concept of office systems should begin at the highest possible point in the company's hierarchy. The greatest benefit can be derived from office systems installed throughout the organization. This requires a senior executive's sponsorship. Angels must fly high.

    . Purchasers. These members of management are the toughest people to sell, because they pay for the system. These are the people most interested in tangible benefits and payback periods. The systems are in their budgets, and they are therefore responsible for justifying their expense. IS must make their job easier by providing the tools for justification. Provide techniques to identify all costs and benefits and provide guidelines for quantifying intangible benefits. For example, a multibillion dollar conglomeration published a book on how to justify office systems for its managers. The techniques were proven by being used by managers throughout the organization and received the support of both the financial and audit departments.

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. Users/owners. These are the ultimate accepters of the system. They must be convinced that the system will help them. It must be worth the risk of changing their work style and investing the time to learn the system.

- IS must understand users' needs and fears. Systems results must be realistically presented. IS's credibility problem in most organizations may be difficult to overcome, but a solution to business problems can transcend a poor image. If the system doesn't deliver the advertised benefits, the breech between IS and the user community may never be closed. The wary buyer of an office system is sometimes looking for an excuse to reject a system. Don't oversell and don't under support.

  - Honestly present the benefits and the cost to the user. Include all the costs identified in section C above, especially the hidden cost of lower productivity during the start-up phase.

  - The only way of closing the credibility gap between IS and the user is to provide effective support. Poorly organized, unresponsive support will destroy user confidence and undermine the system's success. Support personnel must be accessable to the user and must be responsive. Remember, users must be trained to be self-sufficient, or they will transfer ownership of the system to IS.

- Exhibit V-2 summarizes the roles of office systems users and identifies each group's primary strategic focus.

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EXHIBIT V-2

ROLES IN OFFICE SYSTEMS' ACCEPTANCE

ROLE	POSITION	DESCRIPTION	FOCUS
Sponsor	Senior Management	Provide moral support to the system implementers. May eliminate bureaucratic bottlenecks for systems approval. Promote the system among their peers and encourage use of the system by subordinates.	Corporate
Purchaser	Management	Responsible for justifying and paying for the system. The key person for approving a new office system.	Department
Owner	User	Uses the system and is the key person involved with system acceptance.	Personal/ Work Groups

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VI RECOMMENDATIONS

A. I.S. STRATEGIES

- Office systems success requires that the user take ownership of the system. This is not merely financial but also psychological.

  - Users must believe the system will help them do their jobs better. They must believe it's a personal system that they can customize.

  - Users must receive recognition for effective use of the system. Positive feedback will minimize their anxiety over the changing workstyle the system presents.

- Establish an office system task force comprised of representatives from management, finance, users, and IS. Attempt to have the task force chaired by a senior executive (a potential angel to office systems).

  - This task force will be responsible for planning office systems implementation throughout the organization.

  - It will be actively involved with pilot programs and will hold status meetings during development, installation, and postinstallation phases.

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- This will be a political group rather than an IS group, which will be its major asset. Users will have access to this bipartisan group for their problems and suggestions. The stigma of being an IS system will be removed, and environment for user ownership will be established.

- IS should facilitate the use of the system.

  - Effective training and support is a prerequisite to successful office systems.

  - IS should establish an end-user training organization that understands the user's fears and arrests them through a combination of classroom, tutorial, and self-education programs.

  - User personnel should be trained to be trainers, to reinforce the concept of user ownership. The systems should be self-documenting with help-key functions contained in the system to answer common questions.

  - After implementation, IS should become training advisors and not primary trainers.

  - Part of the education process should include systems support features with the goal of making the user as self sufficient as possible. IS will still provide technical experts and support for problems and questions beyond the users' expertise. When IS is called, it must be responsive. Establish a hotline to answer questions, and be prepared to provide on-site support within a day of request for assistance.

- Select pilots with a high likelihood of success.

  - The group chosen for the pilot must have a need that is not being satisfied by its current systems and procedures.

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- The group must be visible to senior management. This is a two-edged sword. If the pilot is unsuccessful, the future of office systems in the organization may be bleak. Even if problems are rectified, management support will be much more difficult to obtain.

- Realistic cost and benefit analysis must be performed.

  - Systems that do not deliver promised benefits and that exceed estimated costs are a thorn in management's side. In fact, this is the main cause of the IS credibility gap with senior management.

  - Remember, office systems costs resemble a step function. At a certain level of use, additional processors and storage media must be acquired.

  - Most of the nonclerical functions performed by office systems provide intangible benefits. Determine what the system purchasers require to justify a system, and design pilots to demonstrate those benefits (see INPUT's report Methods of Cost/Benefit Analysis for Office Systems, September 1983, for recommended justification procedures).

- Market office systems to the corporation.

  - Promote office systems successes throughout the organization. Establish a newsletter that describes the latest innovations accomplished by system users.

    . Provide recognition and encouragement to innovative users.

    . Promote system-assisted successes.

    . Share information among a potential, diverse user community.

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- Remove the stigma of office systems being a fad.

  . Demonstrate productive uses of the system.

  . Implement simple features that have a potential for large benefit. Electronic mail, for example, can improve communication at relatively low cost in a regional, dispersed sales organization.

- Attack barriers to acceptance.

  - Exhibit IV-2 listed some of the barriers to acceptance of office systems. These should be attacked as part of IS office systems strategy.

  - Exhibit VI-1 lists selected barriers to acceptance and strategies for removing them.

B. THE IMPACT OF OFFICE SYSTEMS

- Office systems can provide productivity improvements throughout the entire organization. This will only occur if office systems are planned.

  - Users must participate in all facets of office systems development.

  - Management support is essential.

  - Users must become self-sufficient.

- Office systems acceptance depends on user satisfaction. If users perceive the system to be their own, they will be less critical and more willing to solve problems.

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EXHIBIT VI-1

REMOVING BARRIERS TO OFFICE SYSTEMS ACCEPTANCE

BARRIERS	REMOVAL STRATEGY
Management disenchantment with past systems User distrust of IS Management's concern for technical obsolescence	Establish joint management, user, and IS office system task force
Inadequate support, training, and structure Cyberphobia Users' fears of change and job displacement	IS should become an office systems facilitator, establishing an effective office systems support organization.
Management's belief that benefits cannot be translated into bottom-line results	Realistic cost/benefit analysis Marketing office systems
Customization	Flexible systems User ownership

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- The alternative to planned office systems is independent systems that are hybrids of manual and personal computer systems. The cost of unplanned systems can be measured in increased computer expense (although it may be masked in user budgets) and lower productivity. Independently developed office systems will ultimately require interfaces with IS systems. The cost of these interfaces will be high, and IS personnel will be torn, trying to respond to numerous, unrelated requests. Many systems may be abandoned due to lack of support. User satisfaction will remain low and IS's credibility with users will not improve. In fact, IS may be blamed for not supporting these independent office systems.

- Office systems must be a corporate solution including management, users, and IS in its development. This team approach will improve the chance of acceptance and the realization of the vast potential benefits office systems can deliver.

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- Improving the Productivity of Systems and Software Implementation
- User Communication Networks and Needs
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- Corporate Plan for Utilizing CAD/CAM
- Annual ADAPSO Survey of the Computer Services Industry
- Analysis of Business Services for a Major Financial Institution
- Study of the Specialty Terminal Market
- Study of Disaster Recovery Services
- Analysis of Software Maintenance Issues
- Review of Software Product Market Opportunities
- Analysis of Network User Requirements

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